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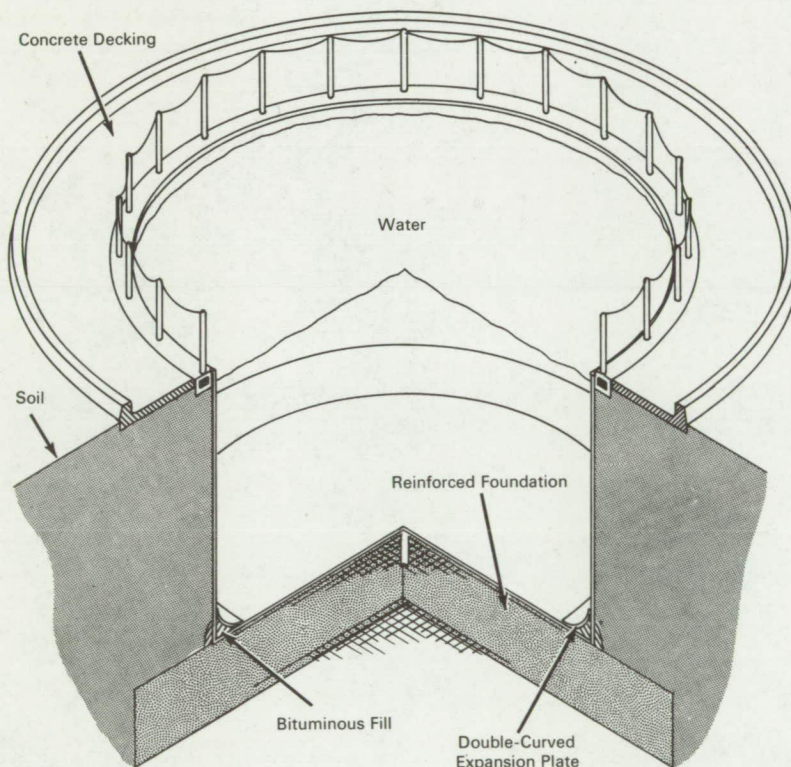
Brief B67-10588

NASA TECH BRIEF



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High Energy Forming Facility



The problem:

To design and construct a watertight, high-explosive forming facility 25 feet in diameter, 15 feet deep and capable of withstanding repeated explosions of 10 pounds of TNT equivalent.

The solution:

A cylindrical shell of high-strength steel fabricated according to statically determined calculations to allow various structural elements to deform or move elastically and independently while retaining structural integrity. The design is based on shock-wave

energy absorption with the shell pulsating in hoop tension and rebound. The forming vessel remains watertight as a result of a bituminous seal located between a reinforced concrete footing and the steel shell. This seal is retained by a special double-curvature, pressure-spring cove plate connected to the floor plate (footing) at one edge only.

Notes:

1. The explosive forming facility permits drawing or forming exceptionally large metal sections as well as relatively small, extra-thick sections to precision tolerances.

(continued overleaf)

2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B67-10588

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: B. Ciurlionis
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